

**Abstract of the Disclosure**

A stator comprises a bobbin with a winding wound therearound and having a central hole. Pole plates are mounted to both sides of the bobbin. Each pole plate includes a plurality of poles and a central tubular portion. The poles of the pole plate attached to a side of the bobbin and the poles of the pole plate attached to the other side of the bobbin are alternately disposed. A magnetically conductive tube is extended through the central hole of the bobbin and the central tubular portions of the pole plates.